Second Wind Air Purifiers
Installation Manual
1012RU
1012-2RU
1018RU
1018-2RU
Remote Units

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PRODUCT

All Second Wind air purifiers are designed to address Heating and Air Conditioning air handling units. Second Wind air purifiers use ultraviolet germicidal light at a frequency of 254 nanometers to disinfect biological growth in return or supply air stream . Some key features of the Second Wind remote series:

- Steel enclosure
- Allows greater installation flexibility
- Multiple lamp lengths (12 and 18 inches)
- UL/CUL Listed
- Electronic start 120-277 VAC power supply
- Improves efficiency, reduces maintenance
- High intensity lamps
- Patented Photo-catalytic oxidation process
- Over 9000 hours lamp expectancy
- Limited Lifetime ballast and unit warranty
- One year lamp warranty

SAFETY PROCEDURES

Please read all instructions carefully to help ensure a correct and SAFE installation of your Second Wind purifier (Ultraviolet Germicidal Photo-catalytic Air Purifier). Failure to do so could damage the equipment or cause harm to yourself or others. Only qualified Heating Ventilation and Air Conditioning (HVAC) technicians should perform the installation.

WARNING

Ultraviolet (UV) light can be harmful to eyes and skin, causing loss of sight and sunburn. When installing do not put unit in an area that allows the UV lamp to be visible . Turn off electrical service before servicing unit.

Electrical shock hazard from 120/277 VAC may cause serious injury or death. Disconnect power before starting installation or maintenance.

Each UV lamp contains a small amount of mercury, in case of breakage use proper disposal techniques. (pg.5)

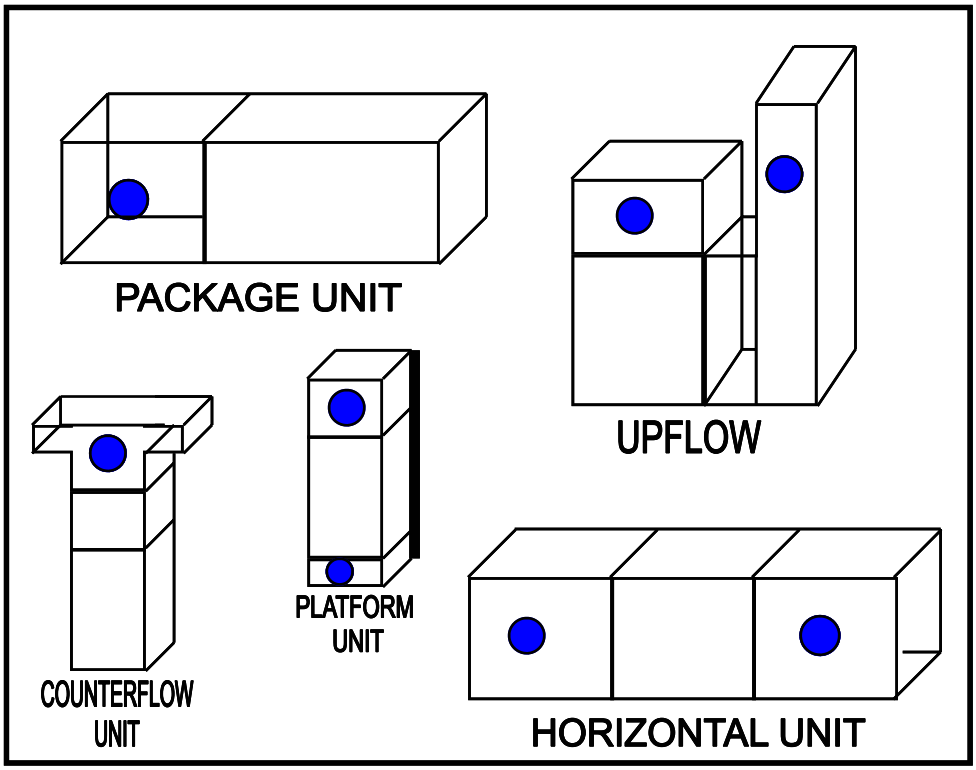
Wear protective gloves and safety glasses when handling lamp. To prevent injury, unplug lamp connector and allow to cool for 10 minutes before servicing.

CAUTION

1. Ultraviolet (UV) light can cause the degradation of plastics, rubber, and other non-metallic materials without uv-inhibitors, used in the HVAC system.
- Install unit in location that prevents exposure to plastics, rubber, and other non-metallic materials to UV light, or shield such materials with aluminum tape, sheet metal, or metal conduit.
- If equipment or components are not made of UV resistant materials shield with aluminum tape or sheet metal.

2. Ultraviolet lamps
- Failure to remove fingerprints from lamp could shorten their lifespan. (clean with denatured alcohol)
- Dispose of broken and replacement lamps at your local waste management office. For information on local disposal laws refer to www.lamprecycle.org

Mounting Locations



Mounting Location

1. Install the lamp where you have easy access.
2. Make sure before drilling into equipment that there is nothing in the way that would be damaged.
3. The lamp should be installed a minimum of 2-3 inches, maximum 36 inches away from the coil or pan surface.
4. When looking for a mounting location try to install the unit away from non UV resistant plastics, rubber, and other non metallic materials. Shield these components using sheet metal, aluminum tape, or metal conduit.

Installation Tools

- Electric Drill
- Phillips screwdriver
- Tin snips
- Eye protection
- Tape measure
- Aluminum tape and sealant
- Multimeter

INSTALLATION

- The installation should be done by a qualified HVAC contractor. Unit must be installed in compliance with all national and local electrical and mechanical codes. Failure to do so will void UL safety listing and Second Wind warranty.
- Read all safety instructions at the beginning of this manual. Failure to do so could lead to personal injury and/or equipment damage.
- In cases where molds are already present on the evaporator coil, it is recommended that a qualified HVAC technician clean the coil before the installation of the UV lamp.

- ***Protect all non-UV resistant materials from direct UV exposure with aluminum tape or metal conduit.***

- ***CAUTION: Ultraviolet light can be harmful to your sight, do not look at the lamp when it is illuminated.***

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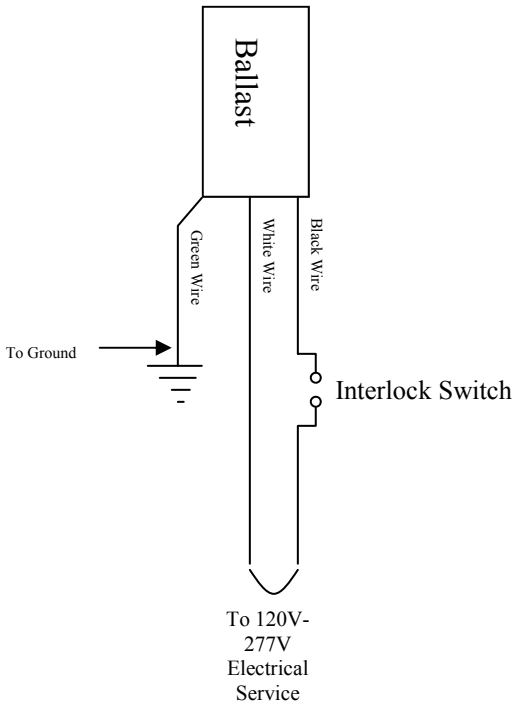
1. For metal ductwork or surface (remove the 2– 8x32 nuts/washers holding cover to the installation plate) using the power supply installation plate, securing holes at the desired installation location. The remote units are on a 6 foot cord, do not install power unit more than 6 feet from remote installation locations.

2. Attach power supply cover to installation plate and use 8x32 nuts/ washer to secure.

3. Place warning labels (included) on the duct: one on the duct near the UV lamps and the other near the air handler.

4. Plug power supply into electrical service, **unit is always energized.**

DO NOT WIRE UNIT TO COME ON AND OFF WITH THE BLOWER, THIS WILL VOID WARRANTY.



Remote Lamp Installation and Replacement

Second Wind Air Purifier lamps are designed to be on all the time. After approximately 9000-11000 hours of operation the lamps intensity will decrease. Installation of a replacement lamp is best handled by a HVAC Contractor.

1 Turn unit off and unplug the power cord. After lamp has cooled proceed.

2 Use duct board installation template to mark mounting location (Fig.1)

3 Cut out mounting hole on the outside of the marked line.

4 Mount black block assembly and secure to the duct using #10, 1 1/4 inch, self tapping screws. (Fig.2)

5 Insert lamp into mounting block, secure in place using the RU lamp holder and the #8, 3/4 inch flat head wood screws provided. (Fig.3 & Fig.4)

6 Connect the lamp by lining up the lamp pins to the connector. Secure the lamp connector to the block using two #8 , 3/4 inch, round head metal screws provided. (Fig.5)

7 Secure cords and mastic/tape any holes in the ductwork.

8 Plug unit in and turn on.

Installed

If the lamps are dirty or have fingerprints on them, use alcohol to remove.

Fig.1

Fig.2

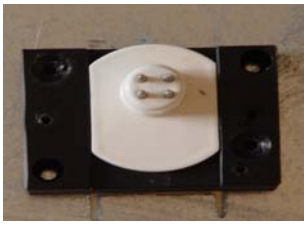


Fig.3

Fig.4

Fig.5

LAMP REPLACEMENT

The Second Wind Ultraviolet Germicidal Photo-catalytic Remote Lamp is designed for 9000-11,000 hours of continuous operation. After 9000 hours intensity of the lamp inside the duct diminishes and should be replaced. Even if the lamp is still illuminated replacement of the lamp is recommended, by a qualified HVAC Service Technician.

- The installation should be done by a qualified HVAC contractor.

1. Disconnect electrical service and turn unit off.
2. Remove screws from remote lamp connector.
3. Disconnect the lamp connector from the lamp base.
4. Remove the screws from the RU lamp bracket and remove old lamp (Be careful old lamp may still be hot !).
5. Replace the old lamp with the new lamp, making sure the new lamp is clean. If the new lamp is dirty or has fingerprints on it remove with an alcohol wipe.
6. Place RU lamp bracket over new lamp base and secure with the screws.
7. Attach lamp connector to the lamp base and use screws to secure.
8. Turn on electrical service and unit.

LAMP DISPOSAL

UV lamps contain mercury like other household lamps and must be disposed of properly. **State requirements and recycling opportunities vary, go to www.lamprecycle.org for State Regulations & Contacts.** Please contact your county waste collection department for proper disposal details.

USE GLOVES AND EYE PROTECTION

If a lamp is broken, **do not use a vacuum cleaner to pick up the waste .** Instead, sweep up the waste into a plastic bag and seal. Contact your county waste collection department for proper disposal details.

REPLACEMENT PARTS

- 18 inch replacement lamp 1018RU or 1018-2RU 1076-2RSpecial
- 12 inch replacement lamp 1012RU or 1012-2RU 1083R-Special
- Ballast 1012RU,1012-2RU,1018RU,1018-2RU. 1651BR
- Lamp Connector RU Lamp Bracket
- Interlock Switch 1047

TROUBLESHOOTING

If the unit does not work, check the following:

Electrical Supply/Wiring—Verify that the electrical service is operating correctly.

Ballast—If lamp still is not illuminating check the wiring to the ballast. If the ballast is wired properly and the lamp still does not illuminate, replace the ballast. With a fully electronic ballast there is no resistance testing.

Lamp—Verify that the lamp is not broken and is properly seated in the lamp connector. To check this, follow steps in the 'Lamp Replacement' section with one exception : you should not remove and replace the lamp. If the lamp is broken read the 'Lamp Disposal' section of this manual.

SECOND WIND AIR PURIFIER LIMITED WARRANTY APPLIES IN U.S.A. AND CANADA

All Second Wind 1012RU,1012-2RU and 1018RU,1018-2RU Air Purification systems that are attached to your Heating, Ventilation and Air Conditioning System (HVAC) have a Limited Lifetime unit/ballast warranty. The lamps for all the HVAC attached units have a (1) year warranty.(MODELS: 1012RU,1012-2RU and 1018RU,1018-2RU)

ONE (1) YEAR COVERAGE LAMPS

The lamps are warranteed by Second Wind for a period of one (1) year from the date of the original installation, when installed and operated in accordance with Second Wind recommendations. If during this period a lamp fails, Second Wind will provide a free replacement. You must pay shipping charges and all other costs of warranty service.Second Wind will not pay labor involved in diagnostic calls or in removing, servicing, or replacing parts.

LIFETIME COVERAGE UNIT AND BALLAST

The covered equipment and covered components are warranteed by Second Wind for a Lifetime from the date of the original unit installation, when installed and operated in accordance with Second Wind recommendations. If during this period a covered component fails,Second Wind will repair or replace the part. You must pay shipping charges and all other costs of warranty service. Second Wind will not pay labor involved in diagnostic calls or in removing, servicing, or replacing parts.

REPAIRS

All repairs of covered components must be made with authorized service parts. Labor charges resulting from diagnostic calls or service are not covered by this warranty.

CARE OF EQUIPMENT

Your new Second Wind Purifier must be properly installed, operated and maintained in accordance with the unit installation, operation, and maintenance instructions provided with each unit. Failure to provide maintenance per Second Wind instructions will void warranty.

WARRANTY LIMITATIONS

This warranty will be voided if the covered equipment (only Second Wind replacement parts or units are warranteed) is removed from the original installation site. This warranty does not cover damage or defect resulting from:

1 Accident, or neglect or unreasonable use or operation of the equipment, including operation of electrical equipment at voltages other than the range specified on the unit name plate.

2 Modification, change or alteration of the equipment, except as directed by Second Wind The furnishings of replacement parts under terms of this warranty will apply to the original warranty period and will not extend the warranty.

Second Wind **makes no express warranties other than the warranty specified above. All implied warranties, including the implied warranty of merchantability and fitness for a particular purpose, are limited to the duration of the warranty specified above. Liability for incidental and consequential damages is excluded and is not covered by this warranty. Some States do not allow limitations on the duration of an implied warranty or the exclusion or limitation of incidental or consequential damages, so the limitations or exclusions may not apply to you.**

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Second Wind shall not be liable for any default or delay in performance under this warranty caused by any contingency beyond their control.

WARRANTY PROCEDURES

All Second Wind Air Purification systems that are attached to your Heating, Ventilation and Air Conditioning System (HVAC) have a limited lifetime unit warranty. The lamps for all the HVAC attached units have a (1) year warranty.(MODELS: 1012RU,1012-2RU and 1018RU,1018-2RU)

1 Be prepared to furnish the following information:
   a- Complete model number and serial number
   b- Proof of installation date if warranty claim is made by other than a qualified service dealer who maintains records of your installation date and service history.
   c- An accurate description of the problem.
   d- Date of failure.

2 Call the installing dealer that you purchased your Second Wind from.

3 If the installing dealer is unable to provide warranty parts, contact:

Call, write, fax or e-mail:

Second Wind Air Purifiers
711 Park Ave.
Medina, NY 14103
1-800-387-4565 PHONE
585-798-5751 FAX
2ndwind@rochester.rr.com E-Mail

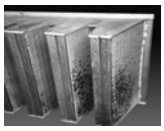
Second Wind Air Purifier Models:
1012RU
1012-2RU
1018RU
1018-2RU
Remote Units

Ultraviolet Germicidal Units for Heating Ventilation and Air Conditioning Systems

Remote Unit

Since the first ultraviolet irradiation system was used successfully in 1909, ultraviolet irradiation has had a 94 year performance history. Second Wind uses the ultraviolet wavelength at 253.7nm, ultraviolet radiation lethal to microorganisms. Second wind air purifiers can reduce mold, bacterial, or viral airborne microbes in all areas of a Heating Ventilation and Air Conditioning system (HVAC).

Return Before



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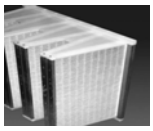

Second Wind air purifiers can also address Volatile Organic Compounds (VOC's), through the addition of Photo-Catalytic Oxidation (PCO). PCO in this case is achieved by the use of our high intensity ultraviolet lamps irradiating the surface of grade 2 titanium creating electron hole pairs (hydroxyl radicals OH). Gas contaminates are oxidized in a reaction that takes place with the hydroxyl radicals, changing the contaminates molecular structure.

The Second Wind Purifier is the perfect choice for small or large applications . Second Wind uses ultraviolet germicidal light and a photo-catalytic process to disinfect mold, bacteria, infectious disease, and decrease volatile organic compounds in the air stream. Second Wind air purifiers are designed for surface and air disinfection.

Features and Benefits

- Available for all applications
- Disinfects mold
- Inexpensive to operate
- Surface and Air Indoor Air Quality Control
- Proven effectiveness through independent test data
- High intensity Ultraviolet Lamps
- Patented Photo-Catalytic Oxidation process to reduce VOC levels
- Ti2 photo-catalytic surface area
- Lifetime Unit Warranty
- Lifetime Ballast warranty
- 1 year lamp warranty
- Over 9000 hours lamp expectancy
- Electronic start power supply ranges from 110/277 VAC
- Class II medical device #k980745
- Registered with the EPA #73112

SPECIFICATIONS

Second Wind Air Purification 1012RU/-2RU and 1018RU/-2RU units are mounted in the supply or return to accommodate most HVAC systems. The units install anywhere in the system to disinfect molds, bacteria or reduce VOC contamination. The housing is steel and comes in 2 sizes (12" and 18" probes). All units are manufacturer assembled and tested.

Models 1012RU/-2RU & 1018RU/-2RU:
The power source is a electronic, Class P, Sound rated A, Type HL, NO PCB's, type 1 outdoor ballast meeting EMI requirements of CFR Title 47 Part 18 consumer. The operating range is from 120 VAC to 277 VAC and the current is 800ma@120vac. The ballast is designed to operate at any airflow and relative humidity.

Second Wind lamps operate at 253.7 nm, ideal for air disinfection, good for use at any velocities, temperatures ranging from 30 - 170 F. Every lamp has an extended lamp life coating which helps maintain intensity levels at 85% even after a year of operation. They are a High Output (HO), T5 (15mm) diameter, lamp yielding 2/3 more output than standard lamps of the same length. Base of the type "L" quartz glass is ceramic, with triple-coiled electrodes made of molybdendum lead in a clamped filament design. Lamp connectors are 4-pin single ended circling sockets. Lamp life shall not be less than 9000 hours.

Submitted device shall be tested under typical HVAC conditions and in accordance with the general provisions of IES Lighting Handbook, 1981 applications Volume. Total output per one inch arc length shall be not less than 10uW/ cm2 at 1 meter in air of 45 F and 400 fpm

The titanium strips attached to the units are the catalyst for the production of hydroxyl radicals in the Photocatalytic process. They are made of Titanium grade 2; 0.01% C, 0.005% N, 0.04% Fe, 0.12% O, and balance Titanium. It has a density of 4.5 g/cm cube, specific heat of 520 J/ kg K, electrical resistivity 50 micro ohms cm, thermal expansion (10-6K) 9.1 (20-300C), tensile strength 390 N/mm sq, and elongation A3 min 30%.

second wind air purifiers
711 park ave
medina, new york 14103
1-800-387-4565
585-798-5751 FAX
www.secondwindairpurifier.com

Dimensions:
Power Unit- 6"W x 8.5"L x 2.25" H
1012RU - 2-12" Remote Probes
1018RU - 2-18" Remote Probes
1012-2RU - 2-12" Remote Probes
1018-2RU - 2-18" Remote Probes
TiRU-Kit - Photo-Catalytic odor control upgrade kit.

Weight
1012RU– 9 lbs. 1018RU - 10 lbs.
1012-2RU– 9.5 lbs. 1018-2RU - 10.5 lbs.

Power Electronic Ballast
1012RU/TiRU: 120 VAC - 277 VAC
1018RU/TiRU: 120 VAC - 277 VAC

Lamps

	18"	***12"***
Base Face in. -	17.2	12.0
Length mm -	436.0	303.0
Arc Length in.-	14.2	8.8
mm -	360	222
Current mA-	800	800
Wattage W-	40	25
Voltage @60Hz-	86	32
UV Output W-	10	5
UV Output @1M uW/cm2 -	500	400
Lamp life hours-	9000	9000

Wiring
Number 18 teflon coated wire 600V, 105C.

URV Rating
Done at 400 fpm, 6" installation tracks, with TB Bacilli rate constant with 60% reduction. Based on scale like MERV rating Low- High, 1-15.

18"	***12"***
13	***12***

Warranty
Lifetime- Fixture, Ballast
1-Year Lamps

DEALER IMPRINT: